

1 / 25

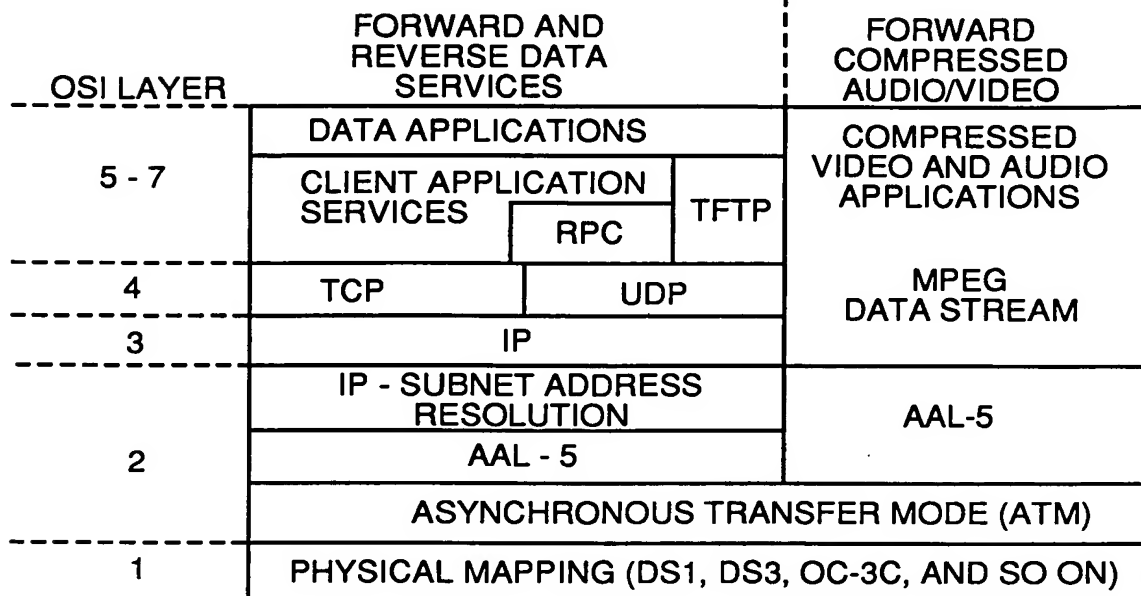
CONNECTION LESS
(INTERACTIVE)CONNECTION
ORIENTED
(ON - DEMAND)PRIOR ART
TIME WARNER FULL SERVICE NETWORK
PROTOCOL STACK

FIG. 1

PEGASUS CHANNEL TYPES

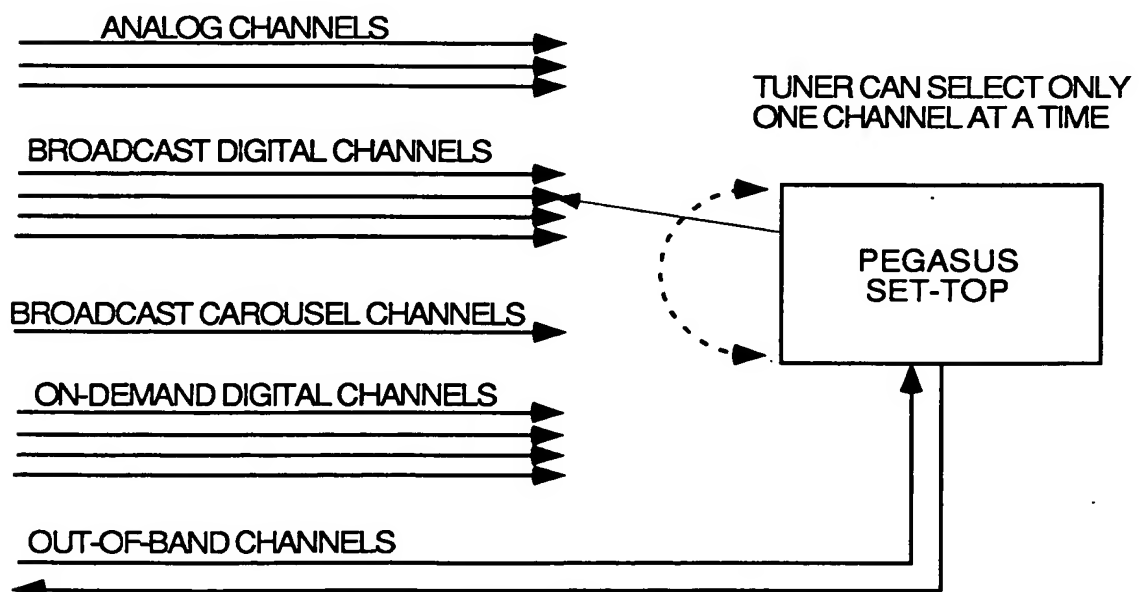
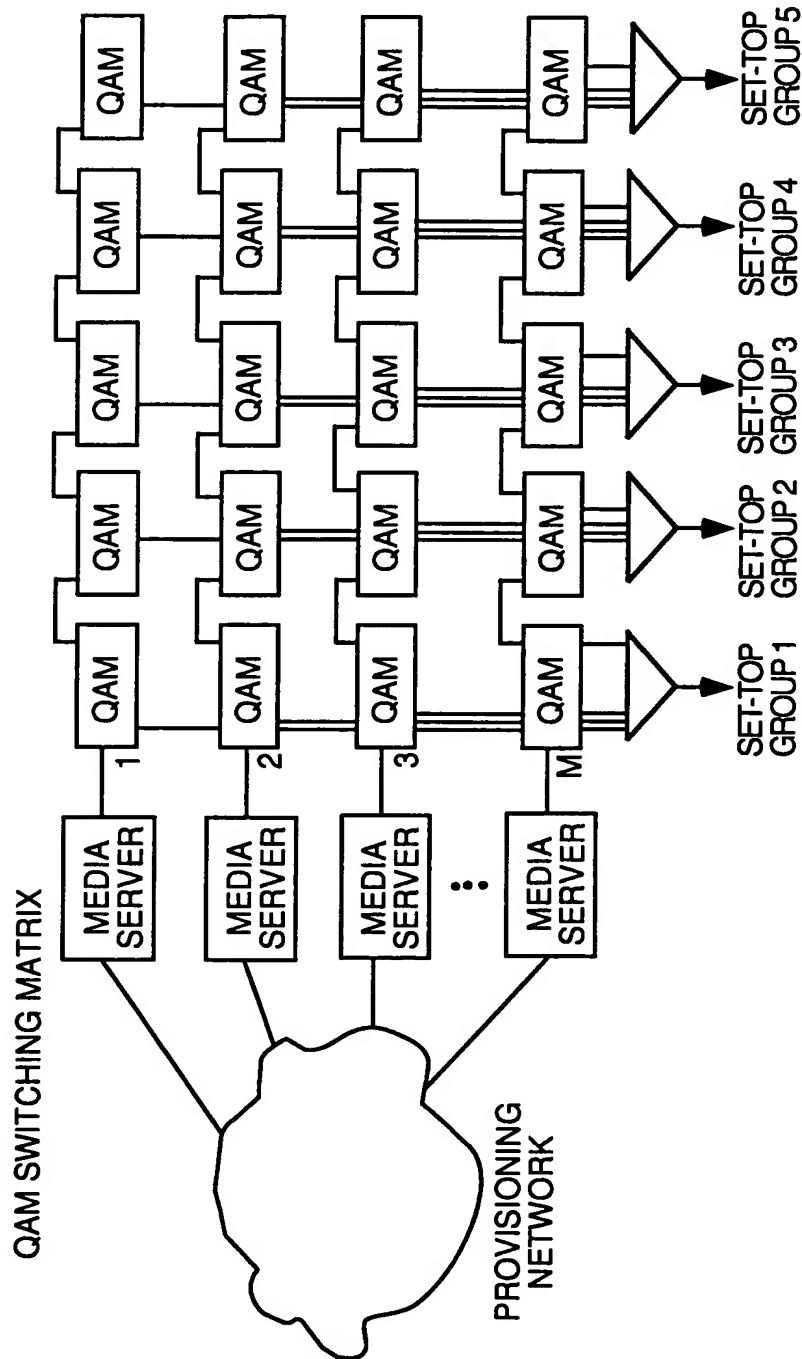
PRIOR ART
PEGASUS 2 CHANNEL TYPES

FIG. 2

2 / 25



PRIOR ART
PEGASUS 2 QAM SWITCHING MATRIX
TO IMPLEMENT MPEG-2 TRANSPORT SWITCH

FIG. 3

3 / 25

COMMUNICATIONS STACK

TCP	UDP			
INTERNET PROTOCOL (IP)		MPEG AUDIO	MPEG VIDEO	NTSC 6-Mhz CHANNELS
ATM ADAPTATION LAYER 5 (AAL-5)				
ASYNCHRONOUS TRANSFER MODE (ATM)				
PHYSICAL LAYER CONVERGENCE PROCEDURE	TIME DIVISION MULTIPLE ACCESS	SA MULTI-RATE TRANSPORT (SA-MRT)		
DS1 EXTENDED SUPER FRAME				
QUADRATURE PHASE SHIFT KEYING (QPSK)		QUADRATURE AMPLITUDE MODULATION (QAM-64)		
FREQUENCY DIVISION MULTIPLEXING				

PRIOR ART

FSN COMMUNICATION PROTOCOL STACK
MPEG DELIVERED OVER ATM SWITCHED NETWORK

FIG. 4

4 / 25

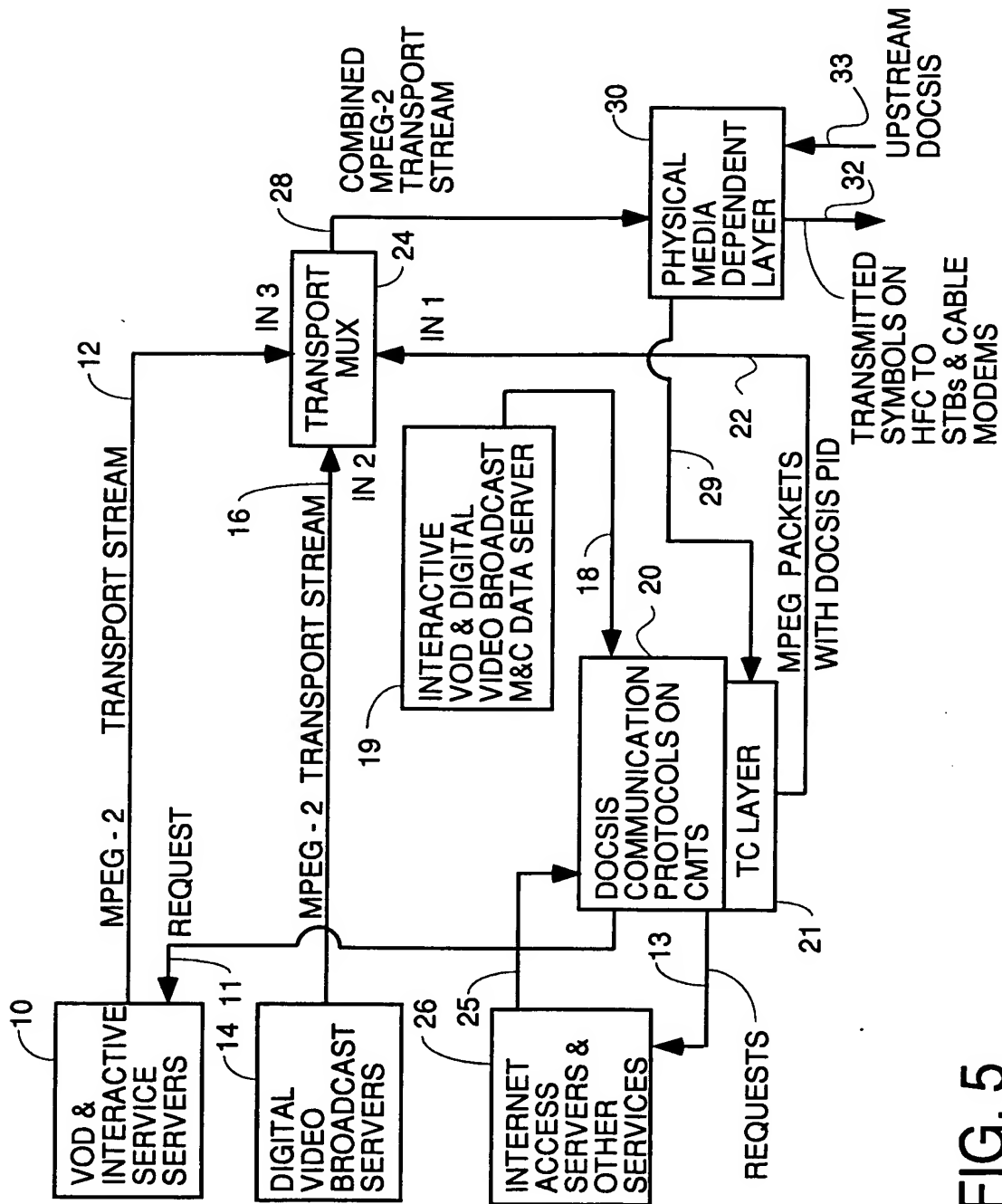


FIG. 5

5 / 25

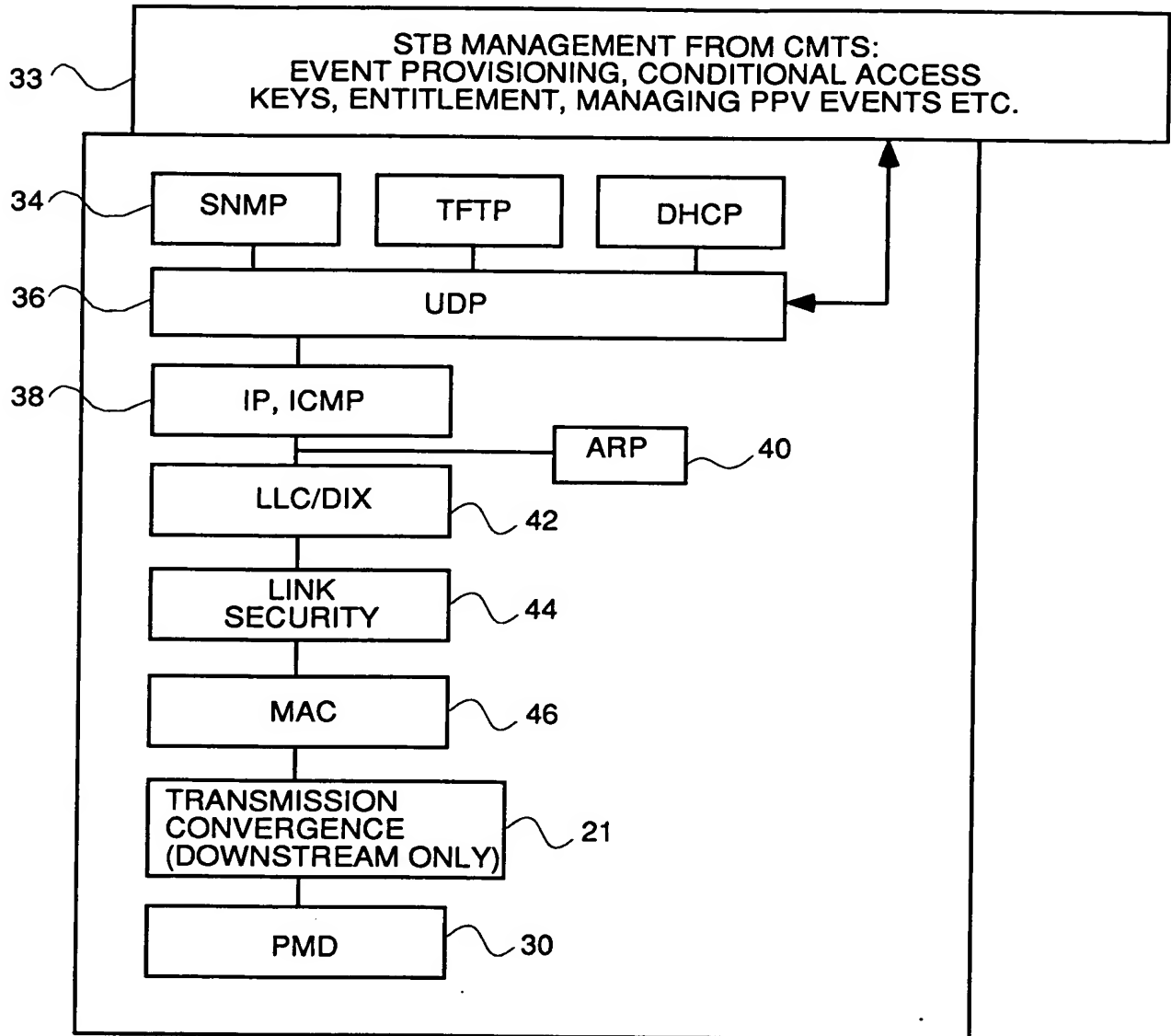


FIG. 6

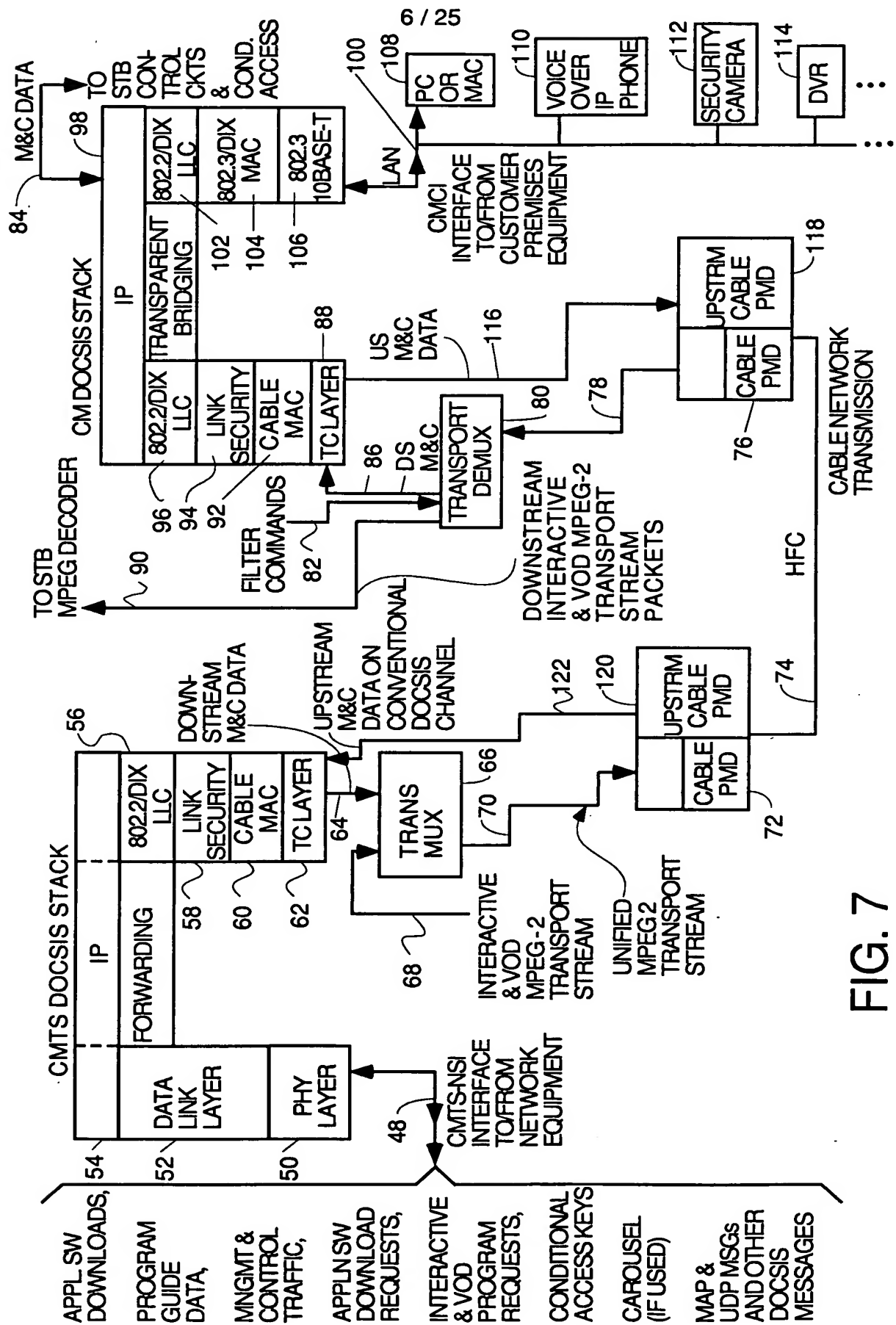
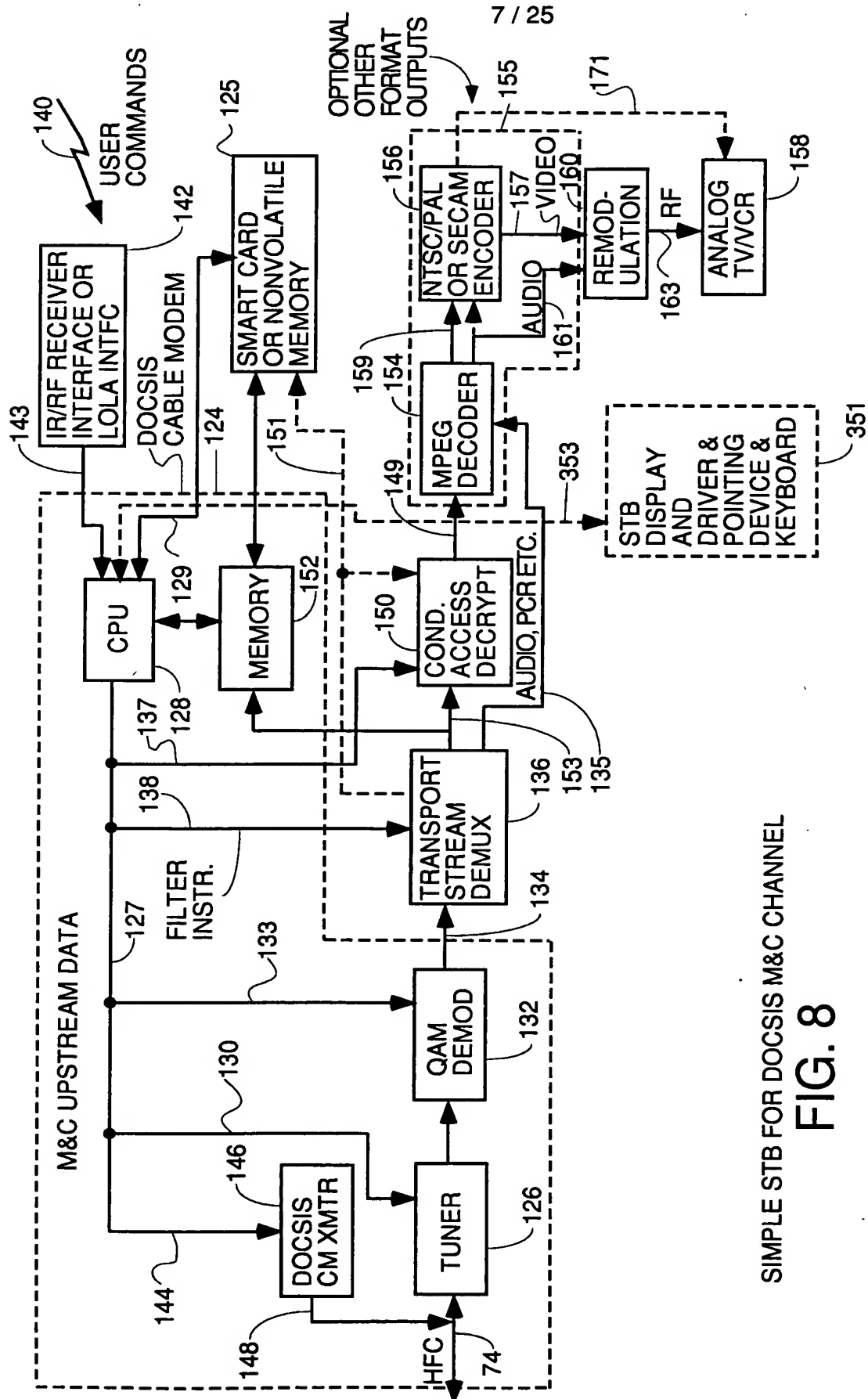
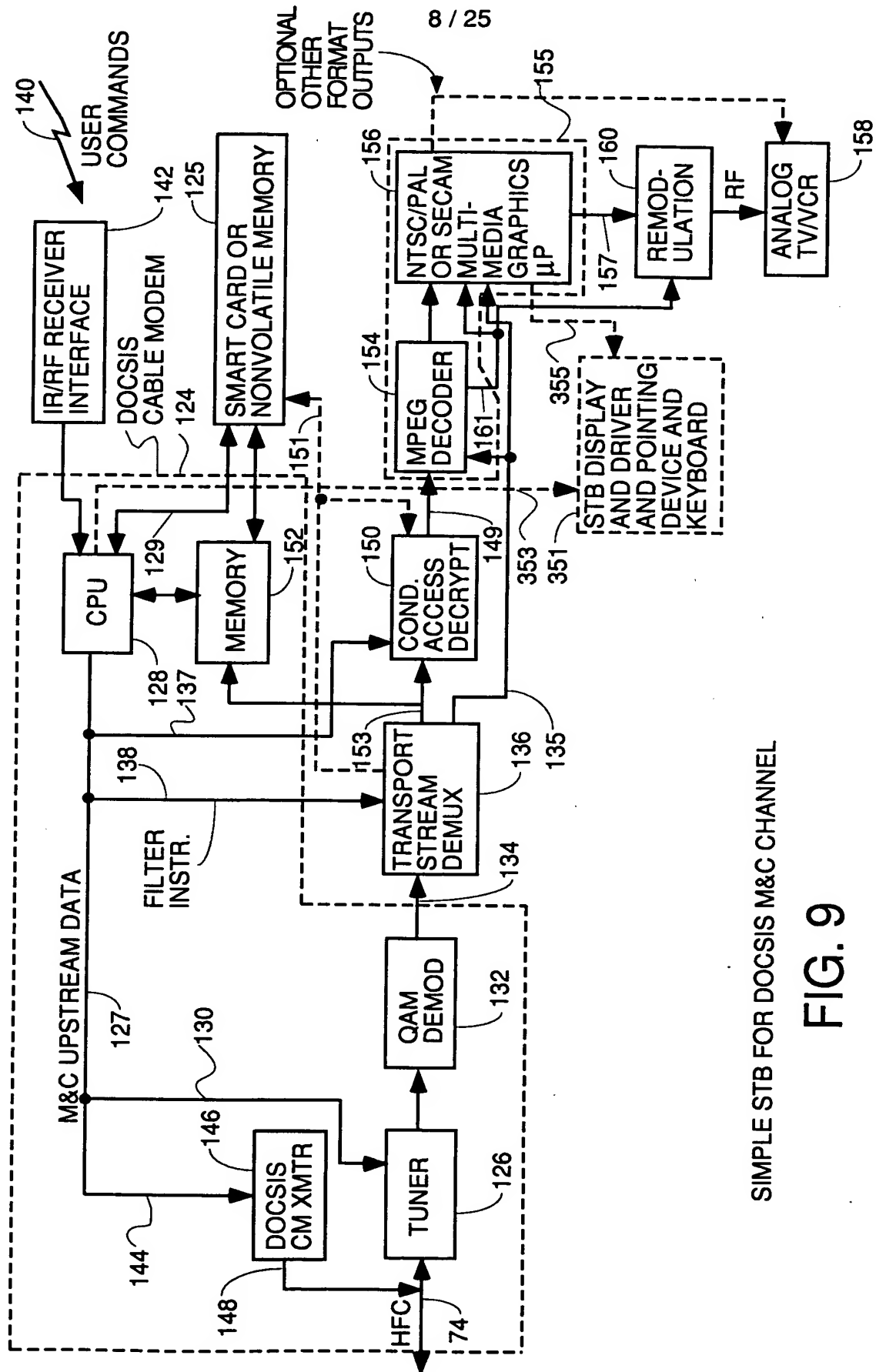


FIG. 7

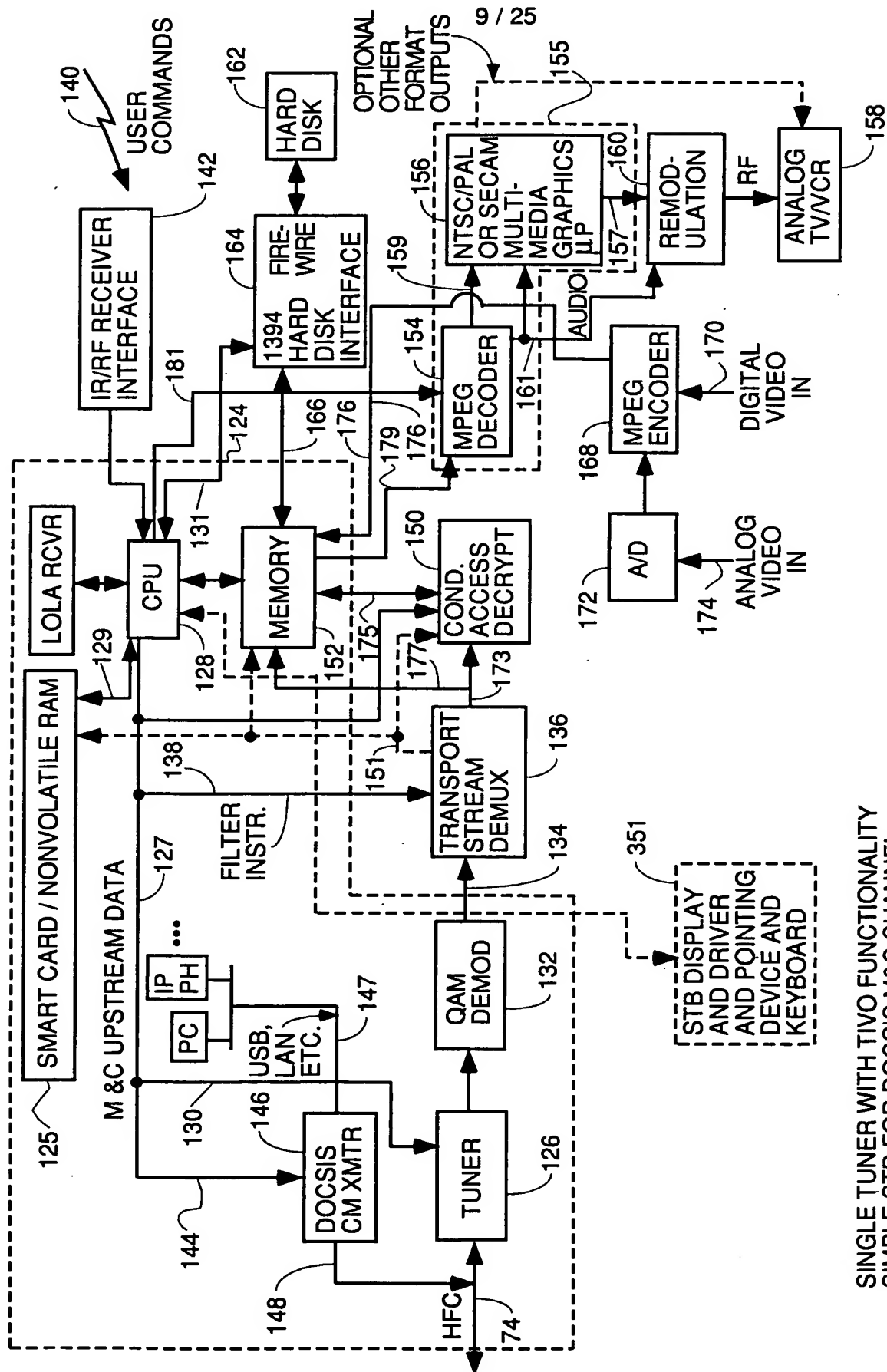


SIMPLE STB FOR DOCSIS M&C CHANNEL
FIG. 8



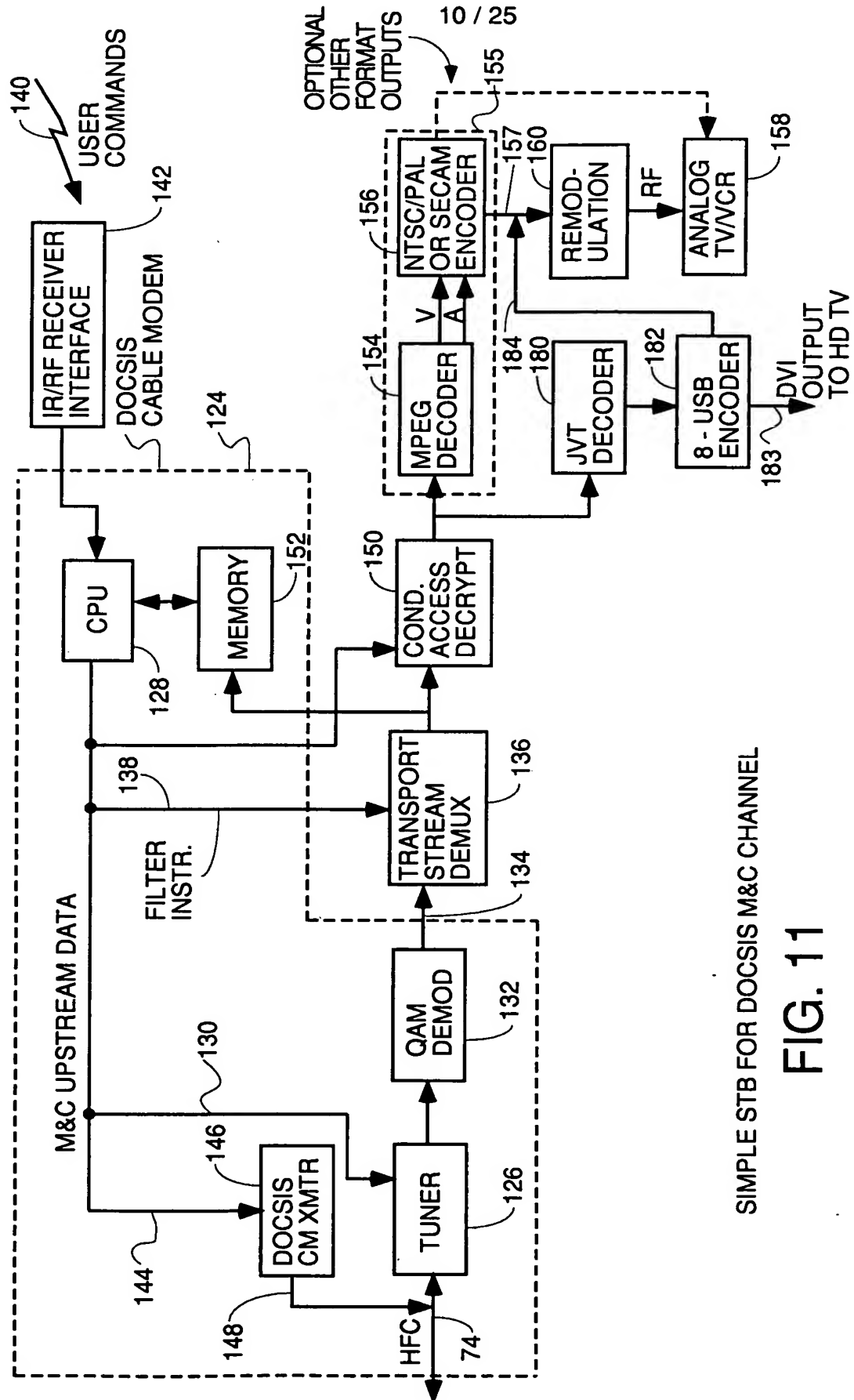
SIMPLE STB FOR DOCSIS M&C CHANNEL

FIG. 9



SINGLE TUNER WITH TWO FUNCTIONALITY
SIMPLE STB FOR DOCSIS M&C CHANNEL

FIG. 10



SIMPLE STB FOR DOCSIS M&C CHANNEL

FIG. 11

11 / 25

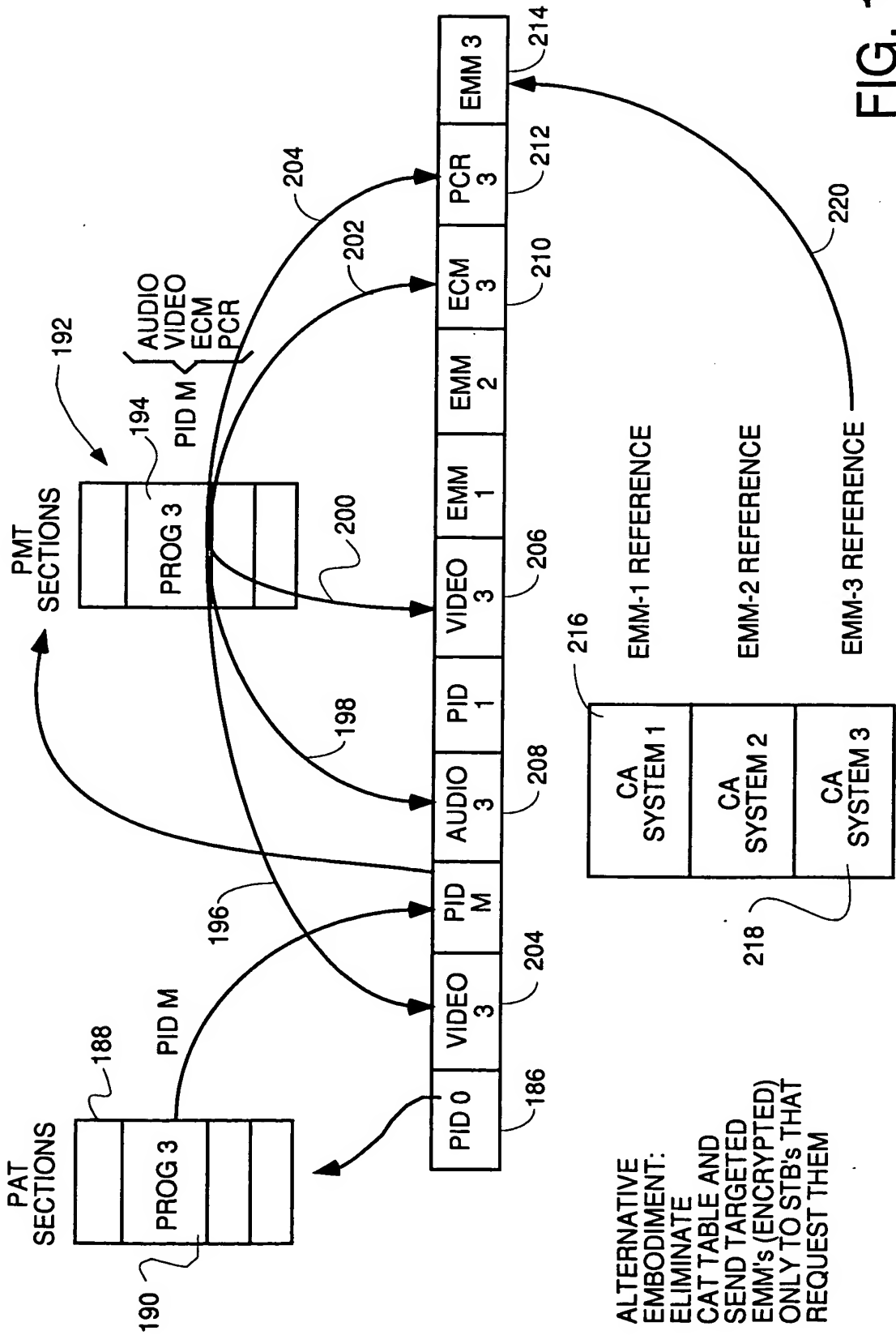


FIG. 12

12 / 25

PROCESS FOR PROVIDING MANAGEMENT AND CONTROL DATA IN-BAND
ON AN MPEG MULTIPLEX ON THE DOCSIS PID

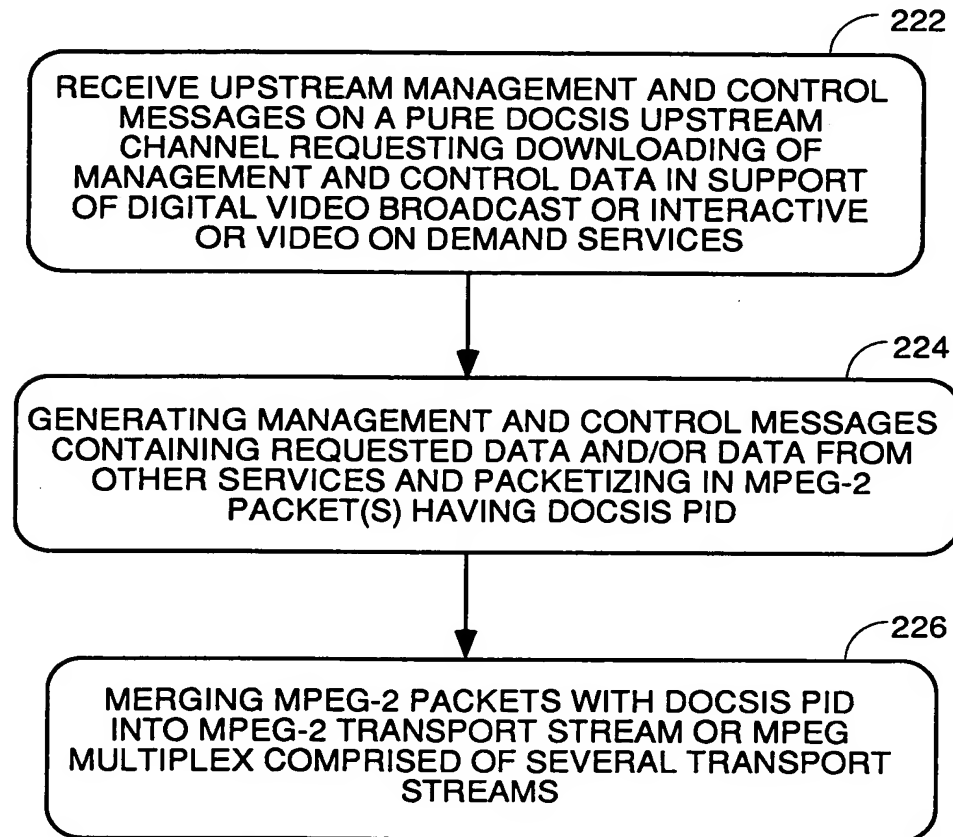


FIG. 13

13 / 25

PROCESS FOR PROVIDING TARGETED CONDITIONAL ACCESS DATA
IN-BAND ON AN MPEG MULTIPLEX WITHOUT USING
A DATA CAROUSEL

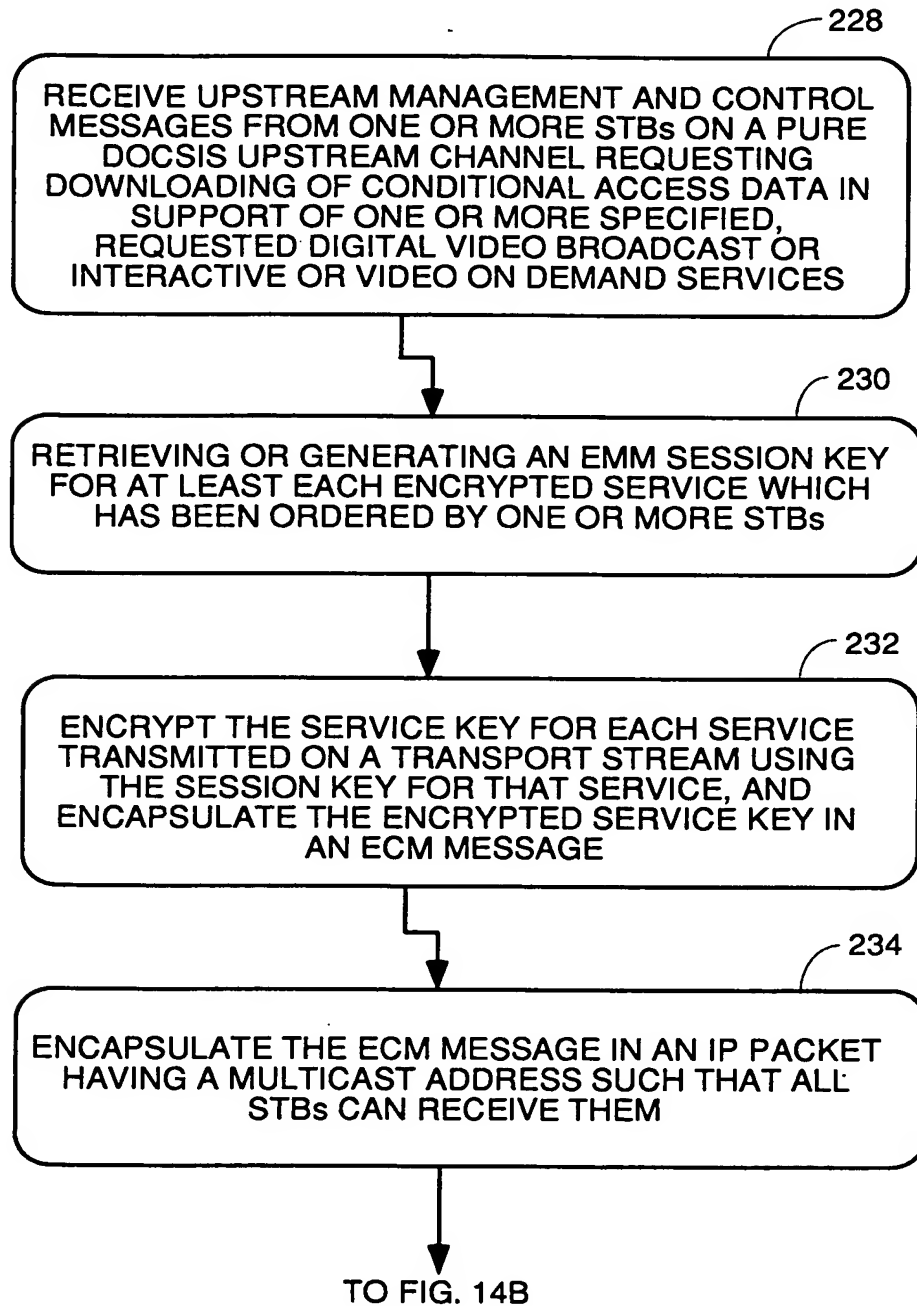


FIG. 14A

14 / 25

FROM FIG. 14A

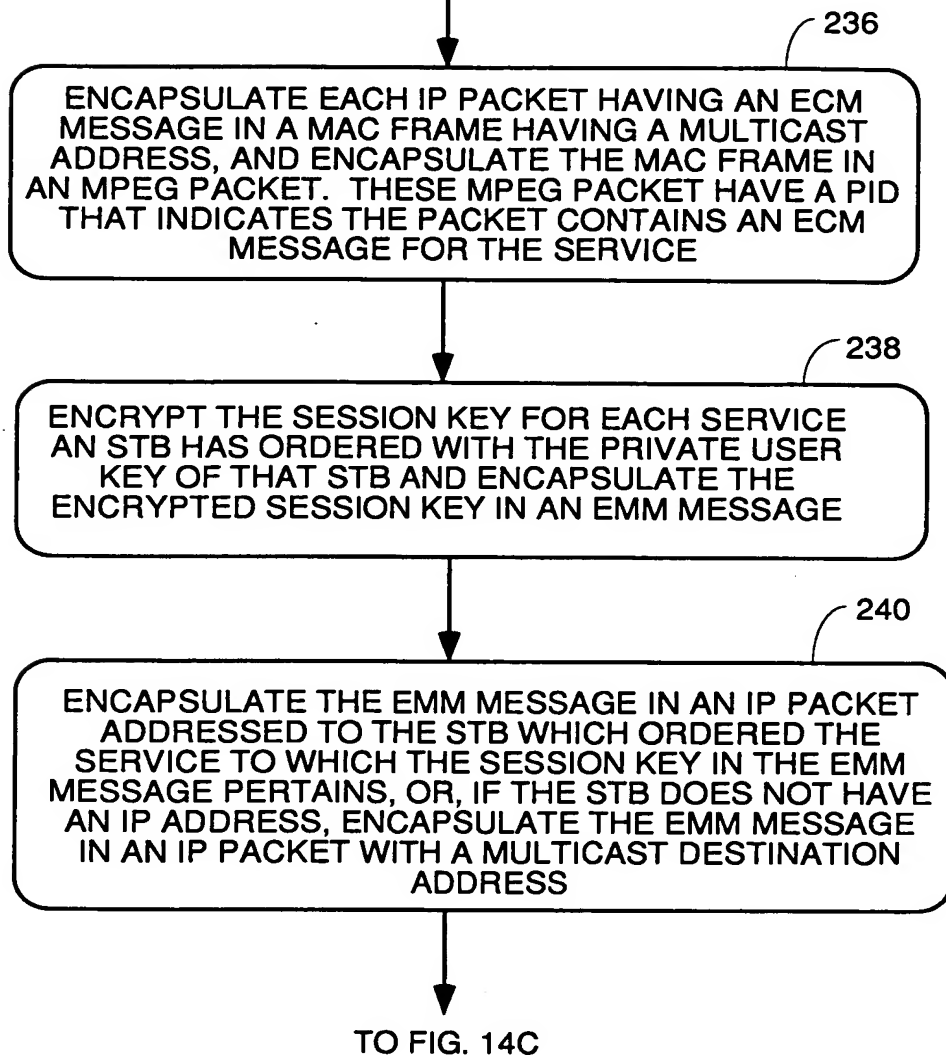


FIG. 14B

15 / 25

FROM FIG. 14B

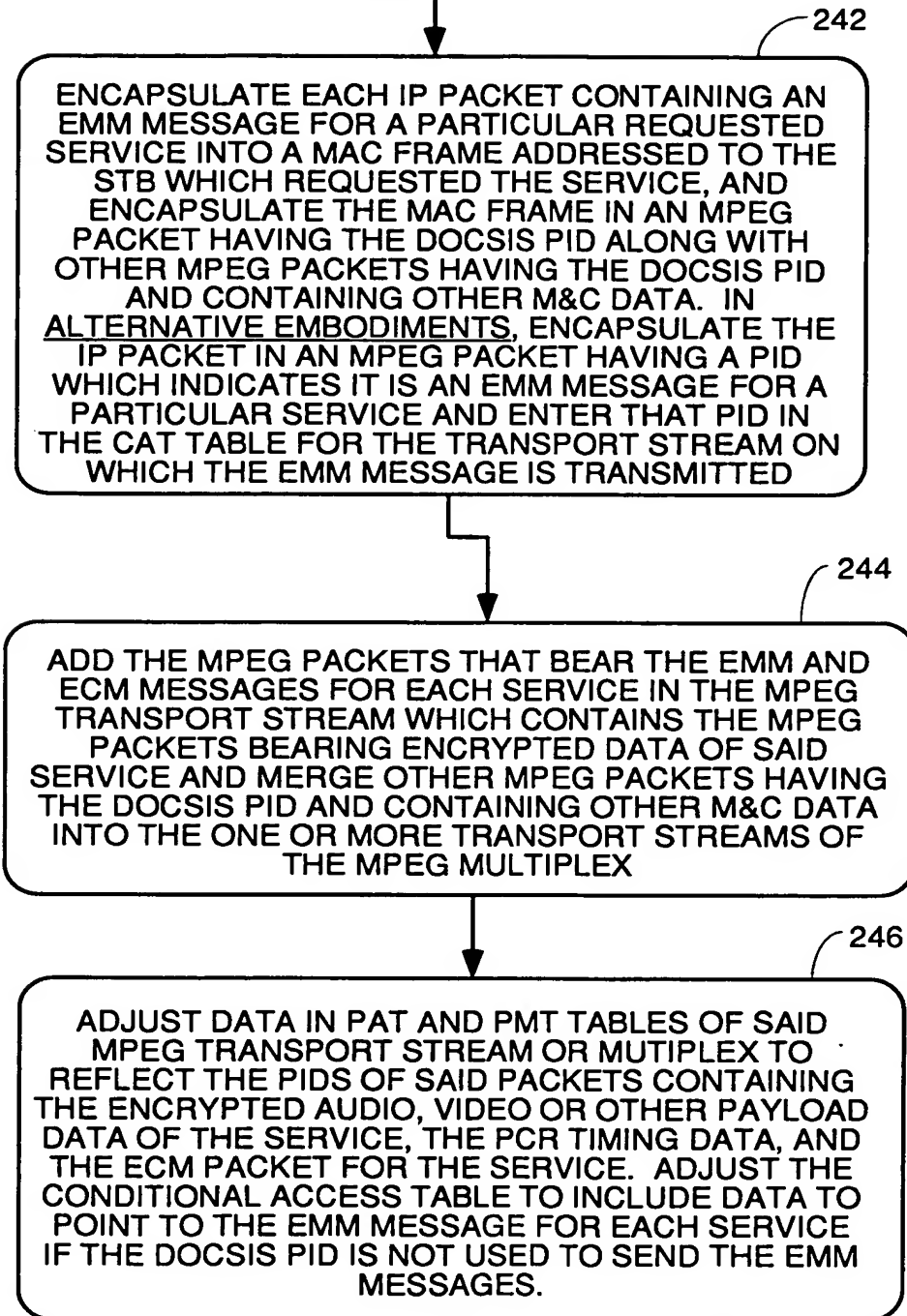


FIG. 14C

16 / 25

PROCESS CARRIED OUT IN STB TO RECOVER EMM AND ECM
MESSAGES FROM AN IN-BAND CHANNEL AND DECRYPT PAYLOAD
DATA OF REQUESTED SERVICE

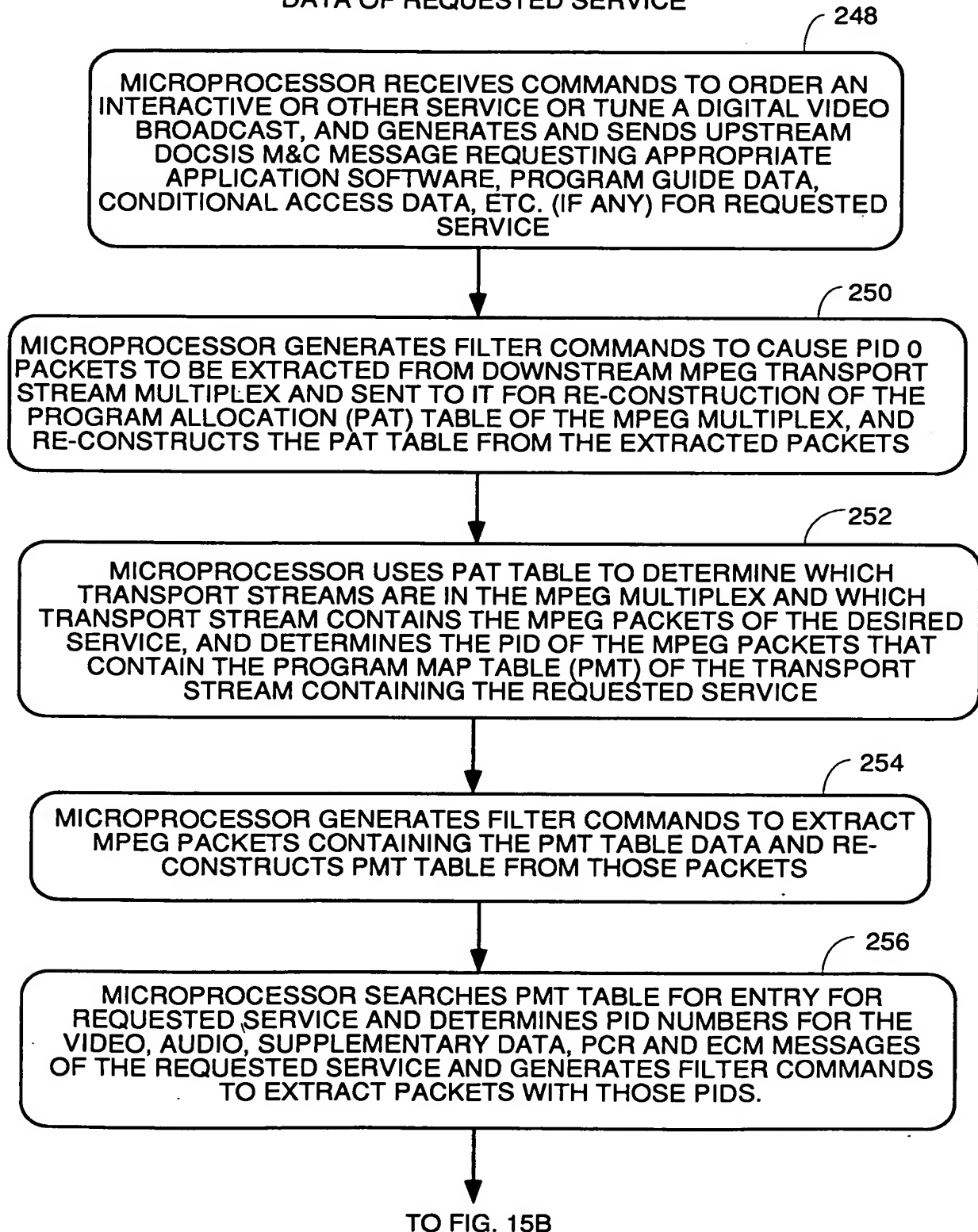


FIG. 15A

17 / 25

FROM FIG. 15A

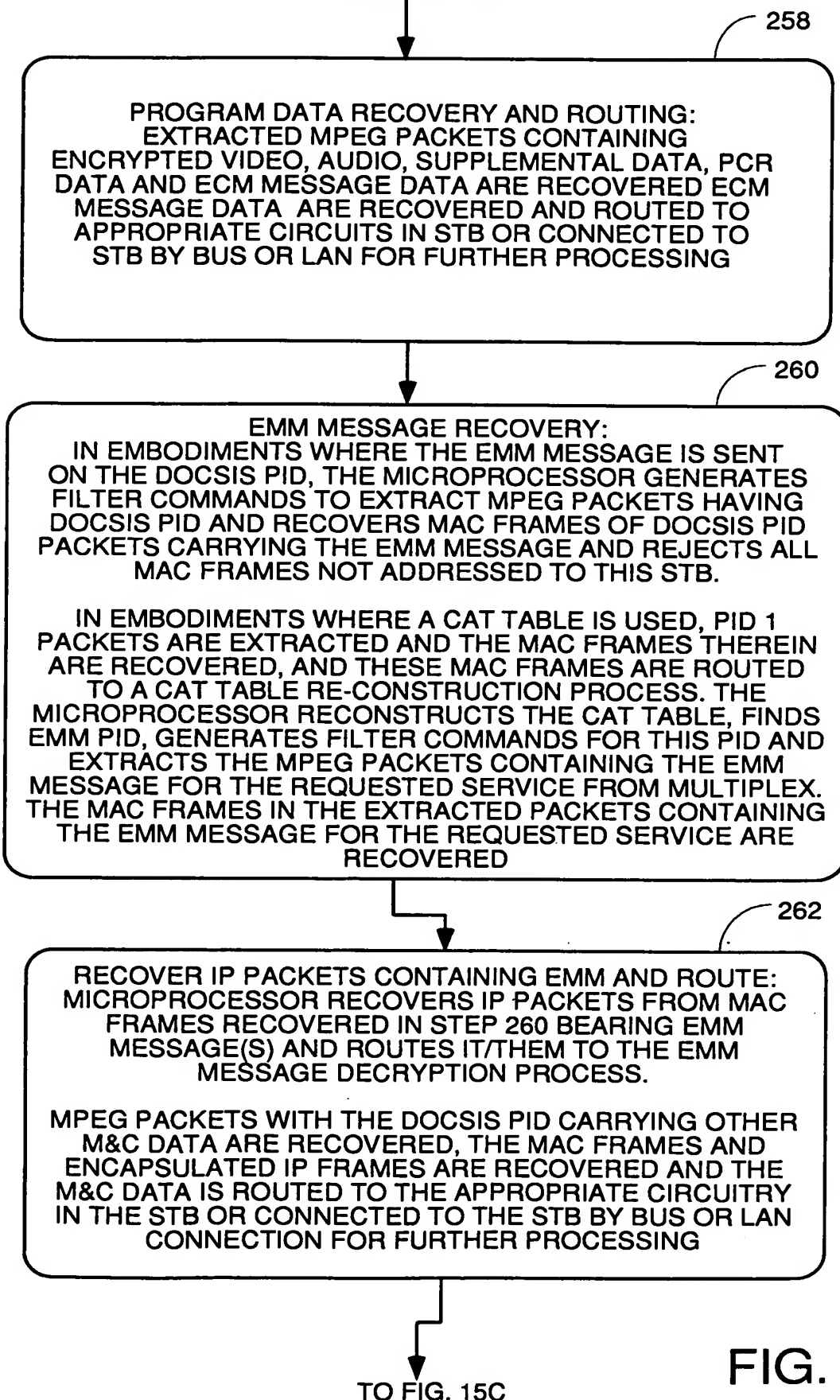


FIG. 15B

18 / 25

FROM FIG. 15B

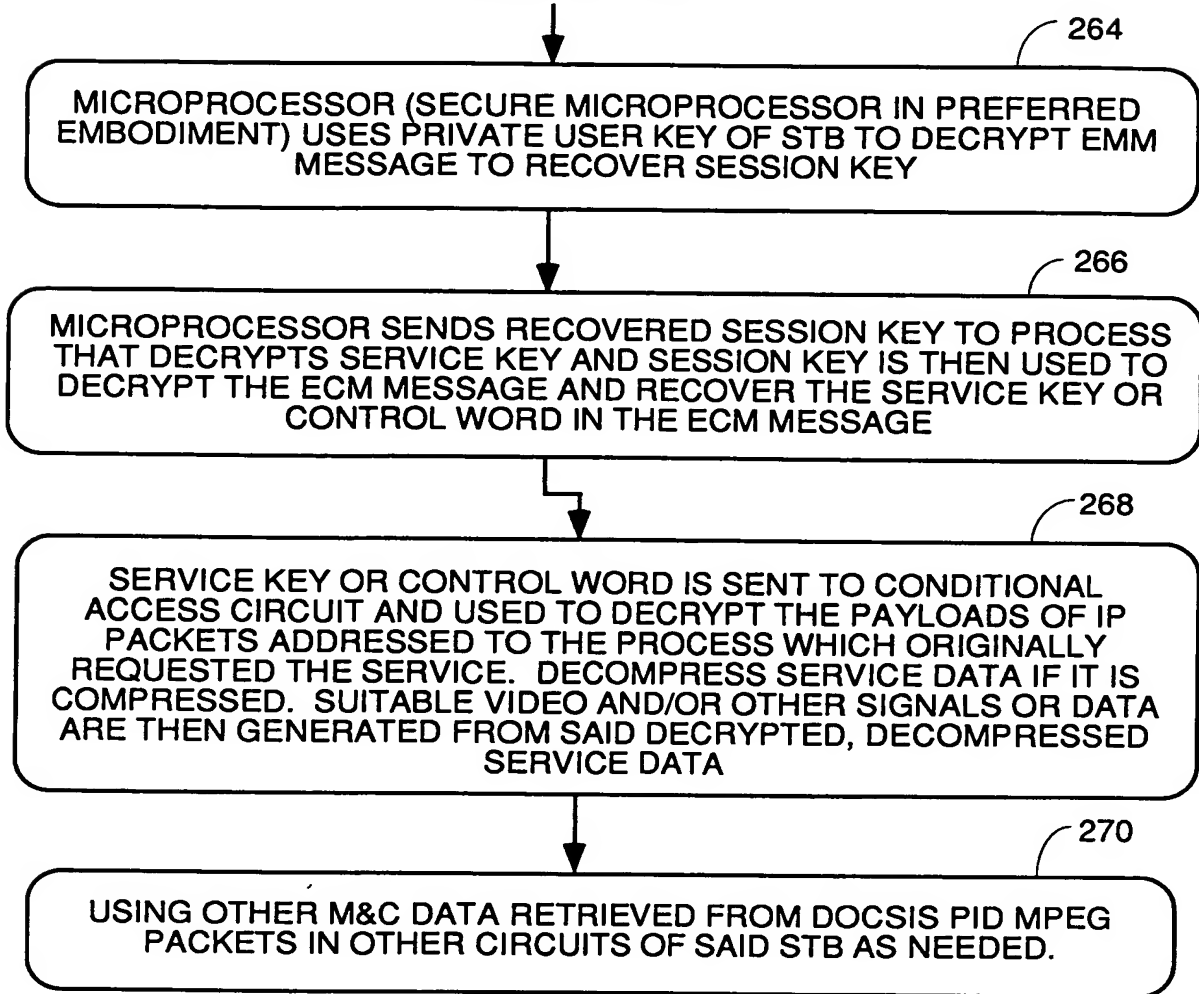


FIG. 15C

19 / 25

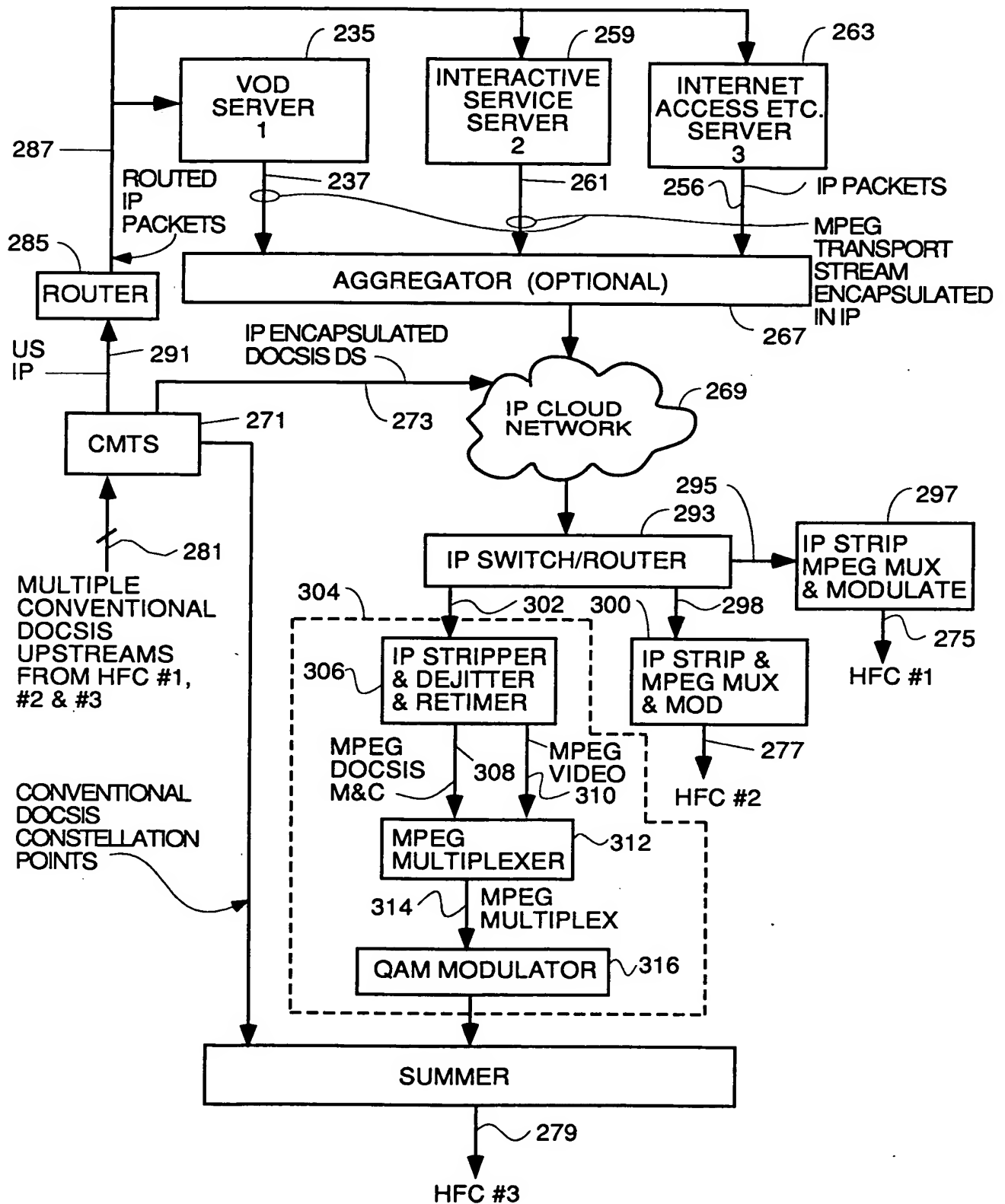


FIG. 16

20 / 25

PROCESS CARRIED OUT BY SIMPLE, SINGLE TUNER STB TO RECEIVE ENCRYPTED DIGITAL VIDEO BROADCASTS

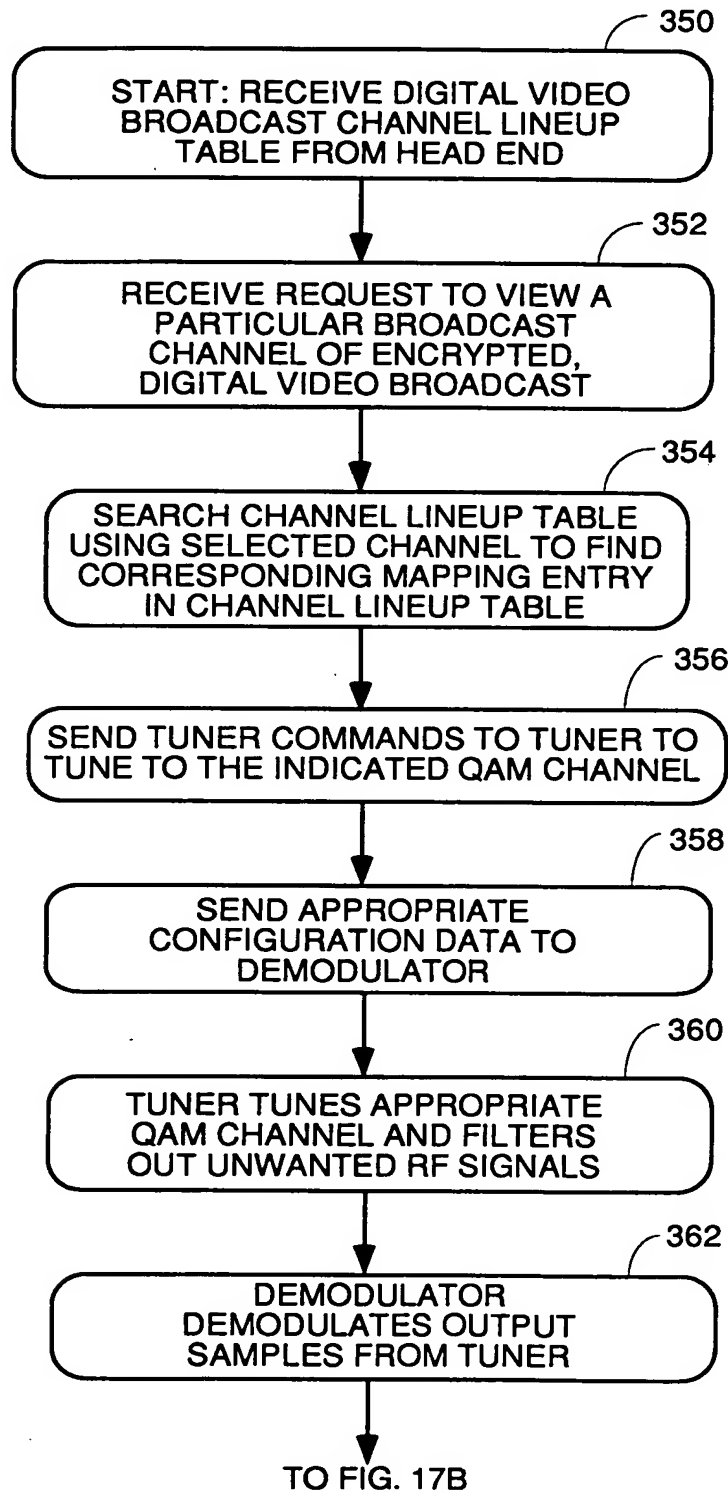


FIG. 17A

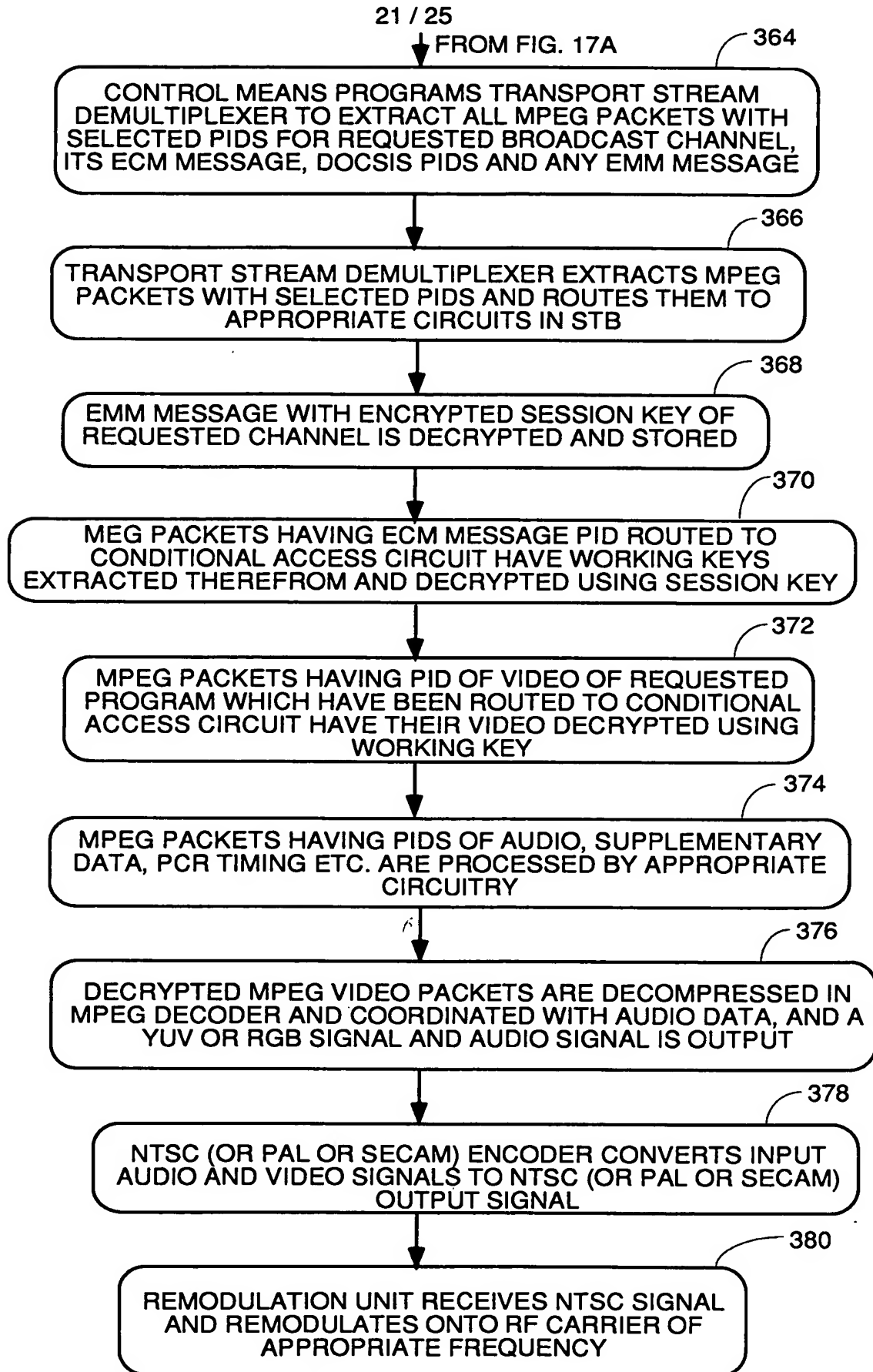


FIG. 17B

22 / 25

PROCESS CARRIED OUT BY SIMPLE, SINGLE TUNER STB TO RECEIVE ENCRYPTED DIGITAL VIDEO-ON-DEMAND PROGRAMS

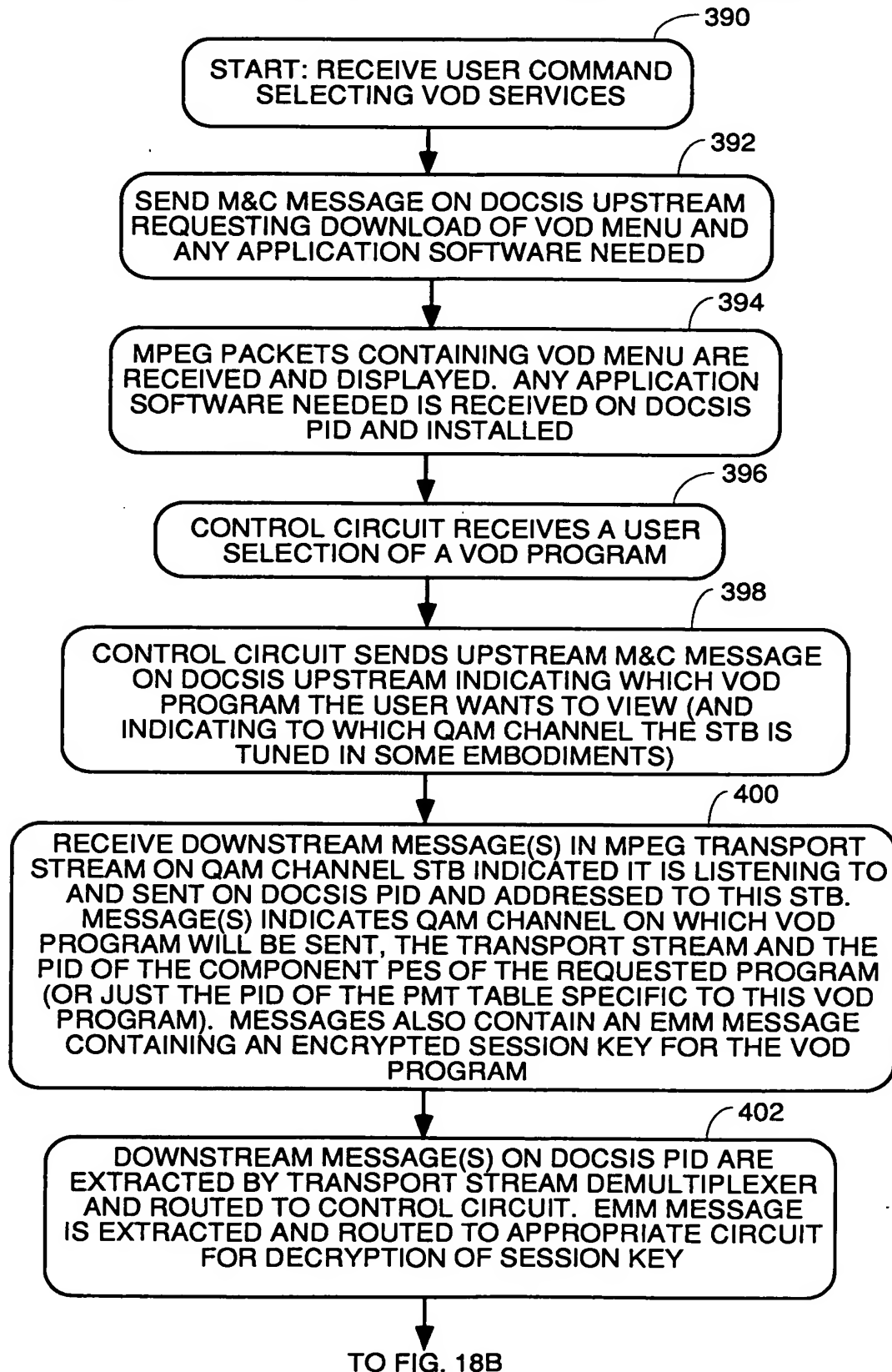


FIG. 18A

23 / 25

↓ FROM FIG. 18A

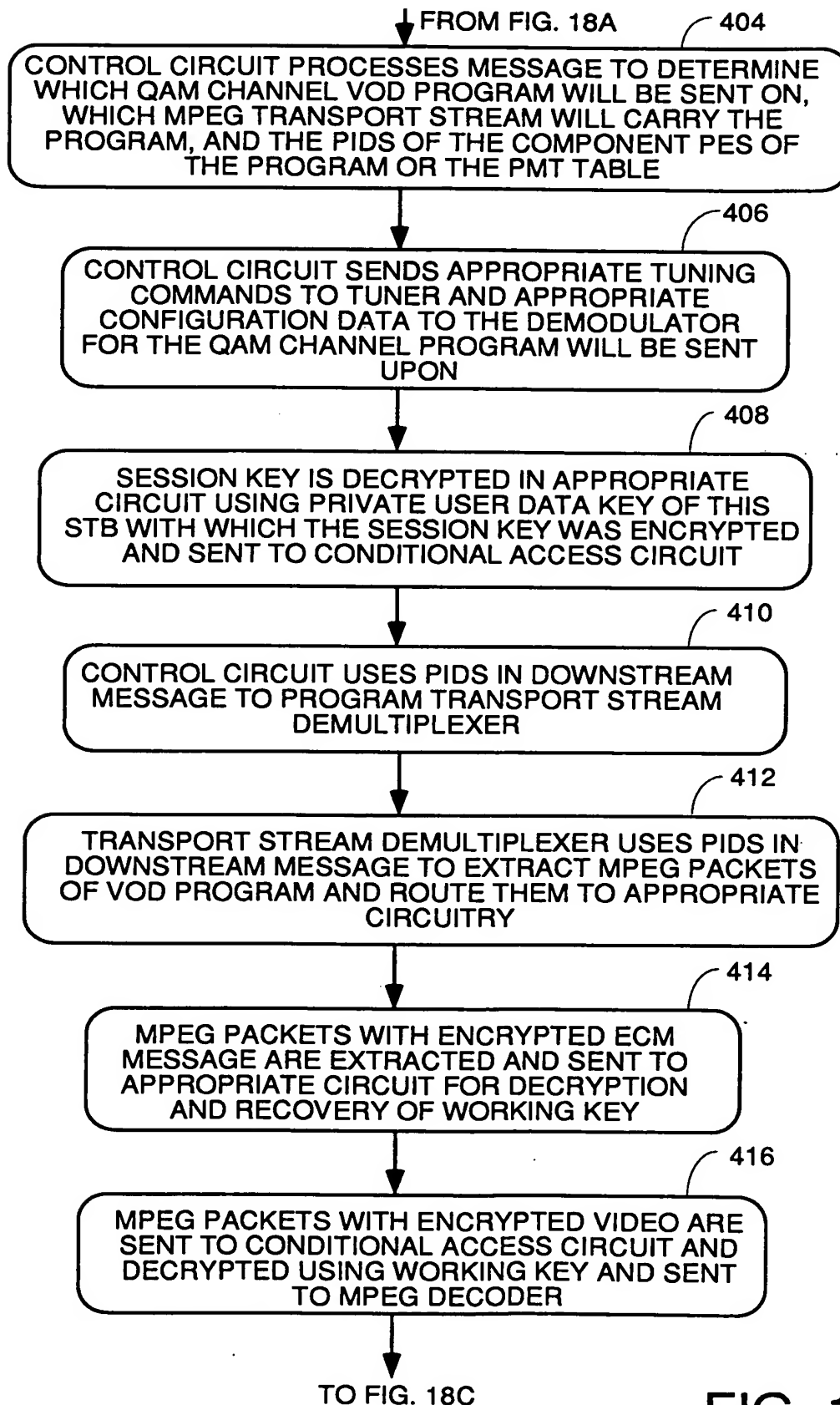


FIG. 18B

24 / 25

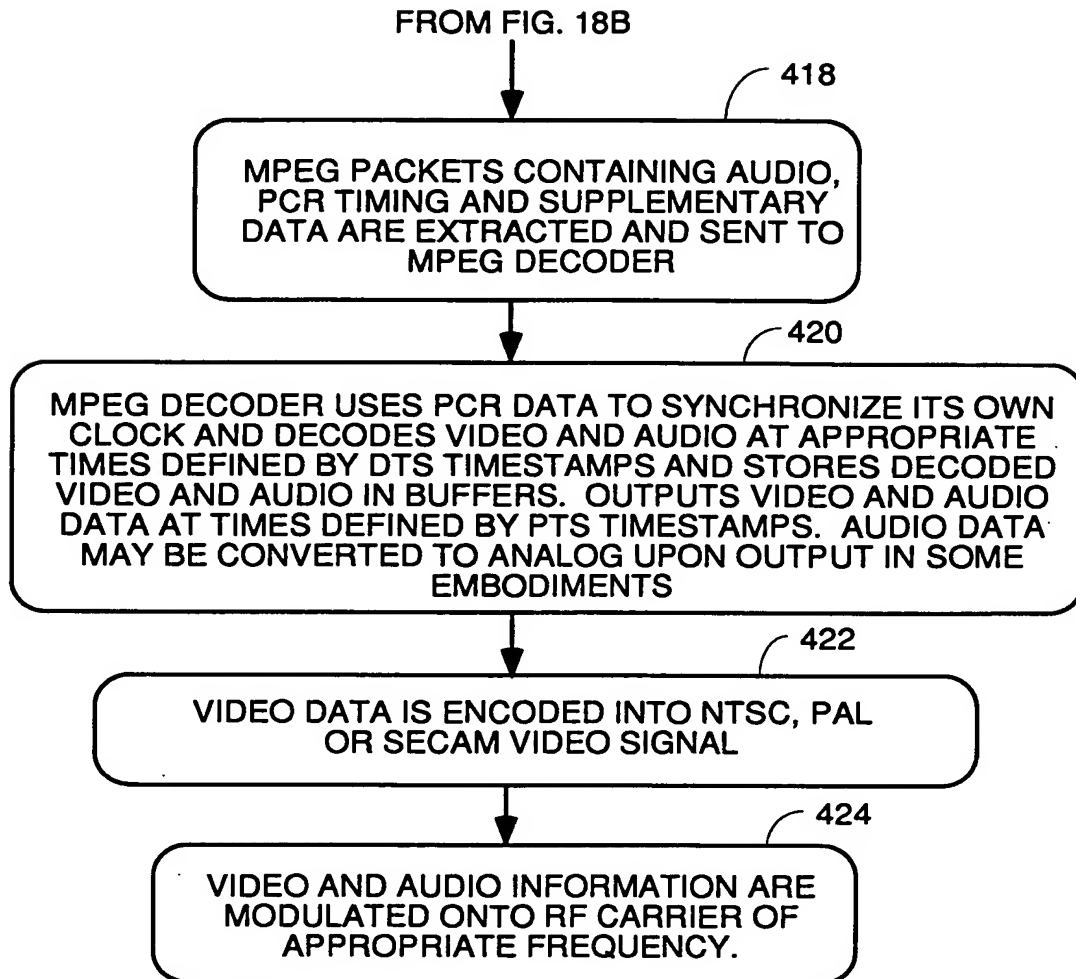


FIG. 18C

25 / 25

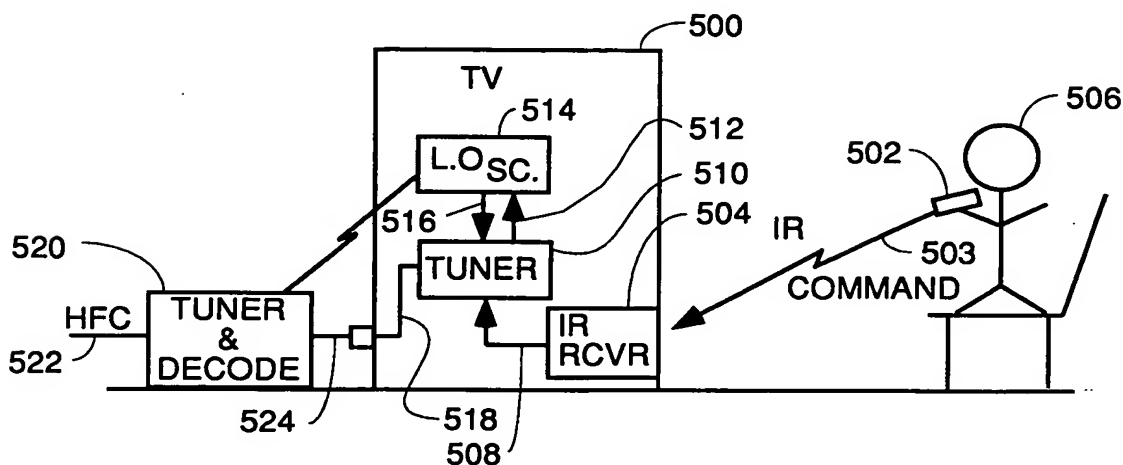


FIG. 19

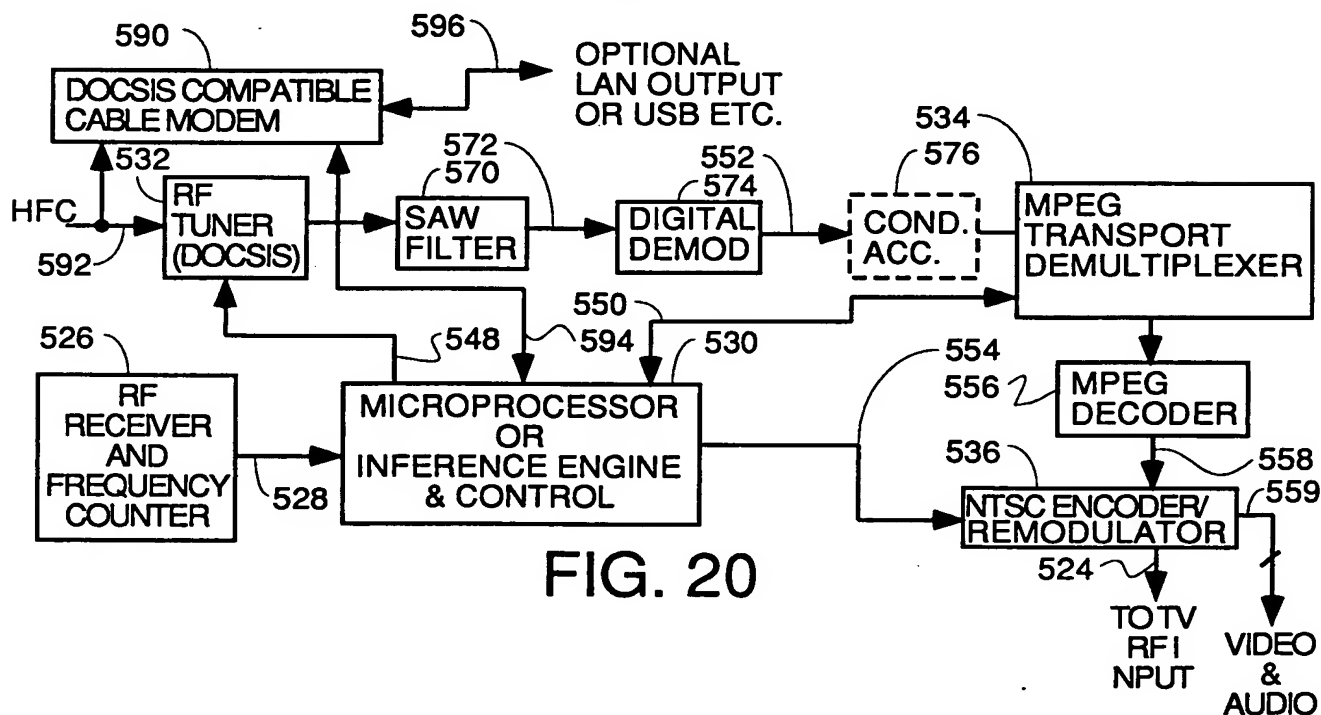


FIG. 20

538	540	542	544	546
LO. FREQ.	ANALOG TV CHANNEL #	CORRESPONDING DIGITAL TV CHANNEL # & FREQ.	CORRESPONDING PID	OUTPUT FREQ.
XX	AA	BB	CC	DD
YY	EE	FF	HH	II
⋮	⋮	⋮	⋮	⋮
560	562	566	568	564

FIG. 21